REMARKS

Claims 1-6 are pending in the above-identified application. In the Office Action of August 25, 2003, the Examiner made the following dispositions:

1). Objected to Claim 3 for a grammatical error.

2.) Rejected Claims 1 and 2 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3.) Rejected Claims 1-6 under 35 U.S.C. §103(a) as being unpatentable over *Barker*.

4.) Provisionally rejected claims 1-6 under the doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 09/956514 in view of *Barker*.

Applicant addresses the Examiner's dispositions below.

1.) Objection to Claim 3

Claim 3 has been amended as per the Examiner's request to overcome the objection. Accordingly, Applicants respectfully submit the objection has been overcome and request that it be withdrawn.

2.) Rejection of Claims 1 and 2 under 35 U.S.C. §112, second paragraph

Claims 1 and 2 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 and 2 have been amended as per the Examiner's request to overcome the rejection. Accordingly, Applicants respectfully submit the objection has been overcome and request that it be withdrawn.

3.) Rejection of Claims 1-6 under 35 U.S.C. §103(a)

Claims 1-6 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Barker*. Applicants respectfully disagree with the rejection.

Claim 1, as amended, claims a method for the preparation of a cathode active material comprising mixing, milling and sintering materials for synthesis of a compound represented by the general formula Li_xFePO_4, where $0<x\leq1$, and adding a carbon material at an optional time point in the course of said mixing, milling and sintering; employing Li_3FePO_4 and $Fe_3(PO_4)_2$ or its hydrate $Fe_3(PO_4)_2 \cdot nH_20$, where n denotes the number of hydrates, as the materials for synthesis of said Li_3FePO_4; and setting the oxygen concentration in a sintering atmosphere to greater than zero, but less than or equal to 1012 ppm in volume at the time point of sintering. Claim 1 is supported at pages 18-21 of the specification.

This is clearly unlike *Barker,* which fails to disclose or even suggest a cathode active material where the oxygen concentration is set to a sintering atmosphere to greater than or equal to 1012 ppm in volume or less at the time point of sintering. Referring to *Barker* column 7, *Barker* discloses a method in which the materials are heated only under non-oxidizing conditions. Unlike Applicants' claim 1, nowhere does *Barker* teach that the oxygen concentration in a sintering atmosphere is set to greater than zero but less than or equal to 1012 ppm.

Independent claim 2, as amended, claims a method for the preparation of a non-aqueous electrolyte cell including a cathode having a cathode active material, and anode having an anode active material and a non-aqueous electrolyte, wherein in preparing said cathode active material, sintering starting materials for synthesis of a compound represented by the general formula Li_xFePO_4, where $0<x\leq1$, are mixed, milled and a carbon material is added at an optional time point in the course of said mixing, milling and sintering; Li_3FePO_4 and $Fe_3(PO_4)_2$ or its hydrate $Fe_3(PO_4)_2 \cdot nH_20$, where n denotes the number of hydrates, are used as the starting materials for synthesis of said Li_xFePO_4; and the oxygen concentration in a sintering atmosphere is set to greater than zero, but less than or equal to 1012 ppm in a volume at the time point of sintering.

This is also clearly unlike *Barker,* which fails to disclose or even suggest a cathode active material where the oxygen concentration is set to a sintering atmosphere to greater than zero, but less than or equal to 1012 ppm in volume at the time point of sintering. Referring to *Barker* column 7, *Barker* discloses a method in which the materials are heated only under non-oxidizing conditions. Unlike Applicants' claim 2, nowhere does *Barker* teach that the oxygen concentration in a sintering atmosphere is set to greater than zero, but less than or equal to 1012 ppm.

Accordingly, Applicants respectfully submit that claims 1 and 2 are patentable over the cited art and are allowable. Claims 3-6 depend directly or indirectly from claim 2, and are therefore allowable for at least the same reasons that claim 2 is allowable.

No new matter has been added, as this amendment is supported by the specification as originally filed. (See pgs. 18-21).

4.) Rejection of Claims 1-6 under doctrine of obviousness-type double patenting

Claims 1-6 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 09/956514 in view of *Barker*. Independent claims 1 and 2 in the present application have been amended to read as follows:

1. A method for the preparation of a cathode active material comprising:

mixing, milling and sintering materials for synthesis of a compound represented by the general formula Li_xFePO_4, where $0 < x \leq 1$, and adding a carbon material at an optional time point in the course of said mixing, milling and sintering;

employing Li_3PO_4 and $Fe_3(PO_4)_2$ or its hydrate $Fe_3(PO_4)_2 \cdot nH_2O$, where n denotes the number of hydrates, as the materials for synthesis of said Li_xFePO_4; and

setting the oxygen concentration in a sintering atmosphere to greater than zero, but less than or equal to 1012 ppm in volume at the time point of sintering.

2. A method for the preparation of a non-aqueous electrolyte cell including a cathode having a cathode active material, an anode having an anode active material and a non-aqueous electrolyte, wherein

in preparing said cathode active material, sintering starting materials for synthesis of a compound represented by the general formula Li_xFePO_4, where $0 < x \leq 1$, are mixed, milled and a carbon material is added at an optional time point in the course of said mixing, milling and sintering;

Li_3PO_4 and $Fe_3(PO_4)_2$ or its hydrate $Fe_3(PO_4)_2 \cdot nH_2O$, where n denotes the number of hydrates, are used as the starting materials for synthesis of said Li_xFePO_4; and

the oxygen concentration in a sintering atmosphere is set to greater than zero, but less than or equal to 1012 ppm in volume at the time point of sintering.

Claims 3-6 depend either directly or indirectly from claim 2. Claims 1-6 of copending Application No. 09/956,514 have also been amended. (See November 25, 2003, Amendment to August 25, 2003, Office Action for Application No. 09/956,514). It is believed that claims 1-6 are patentably distinct from claims 1-6 of copending Application No. 09/956,514. However, Applicants reserve the right to file a terminal disclaimer should the claims be rejected again on this ground.

CONCLUSION

In view of the above amendments and remarks, Applicants submit that all claims are clearly allowable over the cited prior art, and respectfully request early and favorable notification to that effect.

Respectfully submitted,

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